

1264080

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

December 19, 2004

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE.

APPLICATION NUMBER: 60/519,711
FILING DATE: November 13, 2003
RELATED PCT APPLICATION NUMBER: PCT/US04/37939

Certified by



Jon W Dudas

Acting Under Secretary of Commerce
for Intellectual Property
and Acting Director of the U.S.
Patent and Trademark Office

Express Mail Label No. EV 316954122 US

I hereby certify that this paper is being deposited today
in the U.S. Postal Service as Express Mail addressed
to Assistant Commissioner for Patents, P.O. Box 1450,
Alexandria, VA 22313-1450

60/519711

U.S. PTO

11/13/03

U.S. PTO

PATENT

Attorney's Docket No. 16-571

00727 U.S. PTO
60/519711



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

MS PROVISIONAL APPLICATION

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

PROVISIONAL APPLICATION COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION under 37 C.F.R. § 1.53(b)(2).

INVENTOR(s)/APPLICANT(s)			
LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (CITY AND STATE/ FOREIGN COUNTRY)
Herman	Timm		6277 Sugartown Road Ellicottville, NY 14731
TITLE OF THE INVENTION (280 characters max)			
VISCOUS MATERIAL DISPENSER PISTON			
CORRESPONDENCE ADDRESS			
Thomas E. Fisher WATTS, HOFFMANN CO., L.P.A. P.O. BOX 99839 Cleveland, Ohio 44199-0839 Phone: (216) 241-6700 Facsimile: (216) 241-8151			
STATE	Ohio	ZIP CODE	COUNTRY
		44199-0839	U.S.A.
ENCLOSED APPLICATION PARTS (check all that apply)			
Specification Number of Pages	2	Applicant is claiming small entity status under C.F.R. §§ 19., 1.27	
Drawing(s) Number of Sheets	5	Other (specify)	
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION (check one)			
<input checked="" type="checkbox"/> A check is enclosed to cover the filing fees		FILING FEE AMOUNT(S) \$ <u>80.00</u>	
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge additional filing fees and credit Deposit Account No. <u>23-0630</u>			

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government. ☒ NO.

Respectfully submitted,

SIGNATURE: Thomas E. Fisher

Thomas E. Fisher
Reg. No. 18,271

DATE: November 13, 2003

Viscous Material Dispenser Piston

Background

Viscous material dispensers, some of which are known as caulking guns, are now well known. A dispenser described and claimed in United States Patents 5,775,539 and 5,909,830 issued July 7, 1998 and June 8, 1999 (herein The Patents) disclose a high pressure dispenser that has enjoyed commercial success. The dispenser's success has been in mixing and dispensing two part materials of very high viscosity. An example of such a material is that material which is used in installing replacement windshields and rear windows in automobiles.

With the dispenser of The Patents, a problem exists when one particular two part material which is supplied in individual units where a "sausage bag" which encases the material is made from thin metal foil. The foil all too frequently bypasses the flexible lip of a piston of the type described and claimed in The Patents and extends between the piston and a surrounding, close fitting, wall of the dispenser.

Description of Photographs and Accompanying Comments

Sheet 1 is a photo print of a perspective view showing the components of an improved flexible piston 10 and an expansion plate 12.

Sheet 2 is a photo print providing a side elevational view showing the plate 12 slid into the piston within a piston lip 14 and concentrically mounted around a plate locating projection 16.

Sheet 3 shows the expansion plate mounted in the forward end of the piston with the

assembled piston and plate secured to a piston rod (not shown) by a fastener 18.

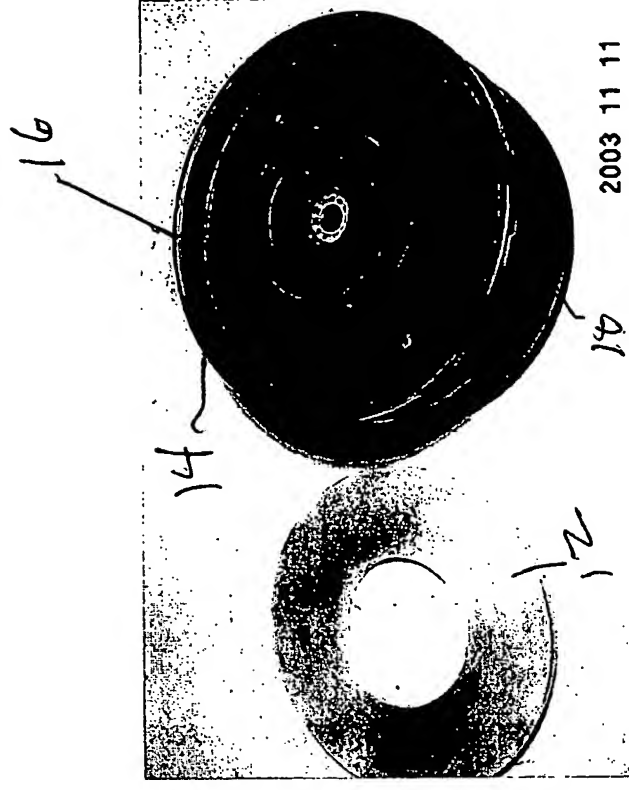
Sheet 4 shows the now standard piston which will be replaced by the novel and improved assembly of sheets 1-4; and ,

Sheet 5 illustrates the problem overcome by the piston assembly of sheets 1-3 showing a foil sausage bag which has been extruded into the space between the pictured standard piston and a cylindrical bore of a dispenser.

The outer perimeter of the expansion plate 12 is tapered such that it acts to wedge the plastic piston lip 14 against a wall of the gun cylinder. This wedging action prevents the problem illustrated in Figure 5. As a result, foil material advantageously remains contained within the flexible piston lip 14.

Meritool Active Piston

- The active piston is a two piece assembly comprised of piston with flexible lip, and a rigid expansion plate. Shown here are a nylon piston and aluminum plate
- The active piston creates a superior sealing radial force important in several types of adhesive dispensing.

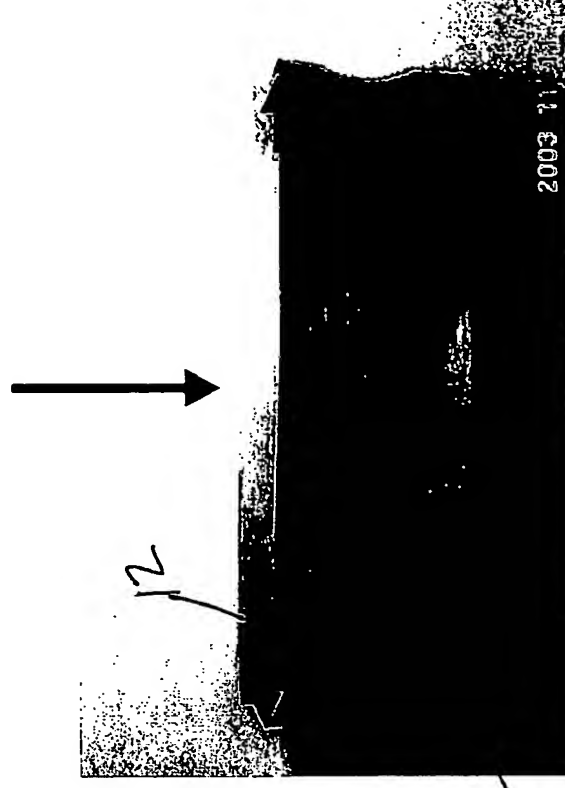


MERITool

CONFIDENTIAL 11/11/2003

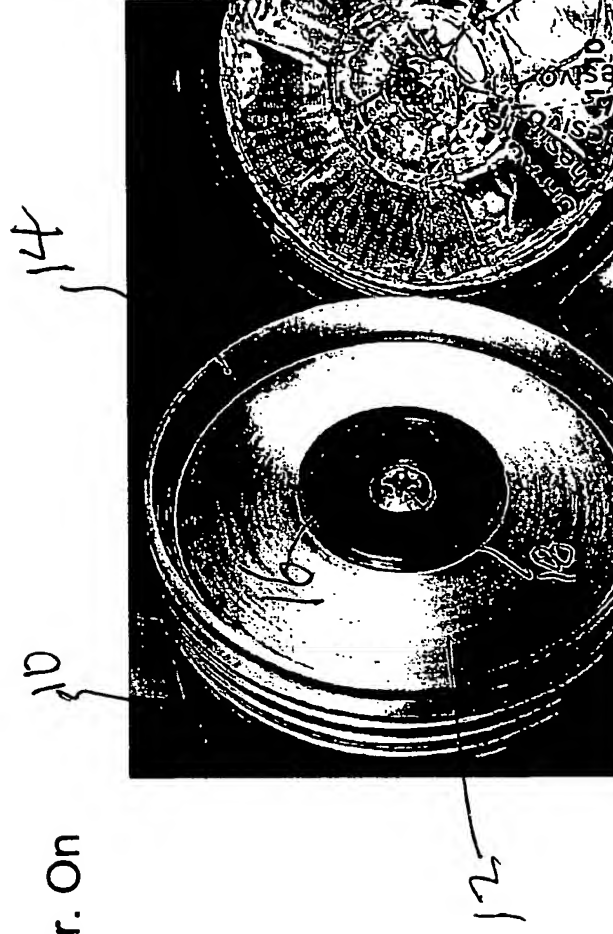
Meritool Active Piston

- The plate slides in to the piston – shown partially inserted here to demonstrate the angled edge of the plate.
- Vertical (black) arrow shows direction of force exerted by the adhesive on the expansion plate.
- Horizontal (red) arrow shows direction of expanding force exerted by expansion plate upon the flexible piston lip.



Meritool Active Piston

- The active piston is shown assembled in to the cylinder. On the right is a fully extruded adhesive sausage.



Meritool Active Piston

- The standard piston is shown at right. Note that it has a flexible lip, but no expansion plate.



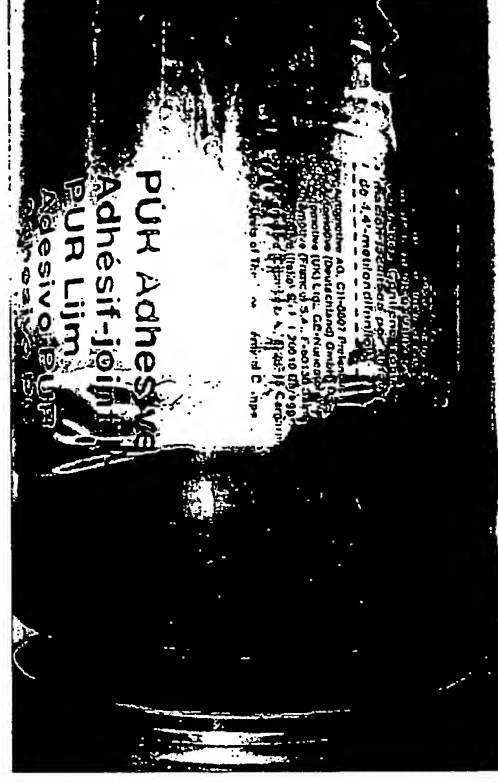
2003 11 10

MERITool

CONFIDENTIAL 11/11/2003

Meritool Active Piston

- A failure of the standard piston is shown at right. The sausage bag – typically a thin foil material bypasses the flexible lip of the piston, resulting in a time consuming mess cleanup and lost productivity.



MERITool
CONFIDENTIAL 11/11/2003

Document made available under the Patent Cooperation Treaty (PCT)

International application number: PCT/US04/037939

International filing date: 12 November 2004 (12.11.2004)

Document type: Certified copy of priority document

Document details: Country/Office: US
Number: 60/519,711
Filing date: 13 November 2003 (13.11.2003)

Date of receipt at the International Bureau: 02 February 2005 (02.02.2005)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



World Intellectual Property Organization (WIPO) - Geneva, Switzerland
Organisation Mondiale de la Propriété Intellectuelle (OMPI) - Genève, Suisse

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☒ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☒ FADED TEXT OR DRAWING
- ☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☒ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.